Benjamin L Ruddell

List of Publications by Year
in descending order

90 papers	3,152 citations	147801 31 h-index	175258 52 g-index
105 all docs	105 docs citations	105 times ranked	4387 citing authors

#	Article	IF	Citations
1	Micro-scale urban surface temperatures are related to land-cover features and residential heat related health impacts in Phoenix, AZ USA. Landscape Ecology, 2016, 31, 745-760.	4.2	198
2	The foodâ€energyâ€water nexus: Transforming science for society. Water Resources Research, 2017, 53, 3550-3556.	4.2	180
3	Ecohydrologic process networks: 1. Identification. Water Resources Research, 2009, 45, .	4.2	154
4	Interdependent Infrastructure as Linked Social, Ecological, and Technological Systems (SETSs) to Address Lockâ€in and Enhance Resilience. Earth's Future, 2018, 6, 1638-1659.	6.3	153
5	A multi-method and multi-scale approach for estimating city-wide anthropogenic heat fluxes. Atmospheric Environment, 2014, 99, 64-76.	4.1	97
6	Identifying scaleâ€emergent, nonlinear, asynchronous processes of wetland methane exchange. Journal of Geophysical Research G: Biogeosciences, 2016, 121, 188-204.	3.0	97
7	Heat-Related Deaths in Hot Cities: Estimates of Human Tolerance to High Temperature Thresholds. International Journal of Environmental Research and Public Health, 2014, 11, 3304-3326.	2.6	92
8	Water Footprint of Cities: A Review and Suggestions for Future Research. Sustainability, 2015, 7, 8461-8490.	3.2	85
9	Convergence of microclimate in residential landscapes across diverse cities in the United States. Landscape Ecology, 2016, 31, 101-117.	4.2	78
10	The role of hydrologic information in reservoir operation â€“ Learning from historical releases. Advances in Water Resources, 2008, 31, 1636-1650.	3.8	76
11	Quantifying the role of climate and landscape characteristics on hydrologic partitioning and vegetation response. Water Resources Research, 2011, 47, .	4.2	74
12	Water scarcity and fish imperilment driven by beef production. Nature Sustainability, 2020, 3, 319-328.	23.7	73
13	Hot playgrounds and children's health: A multiscale analysis of surface temperatures in Arizona, USA. Landscape and Urban Planning, 2016, 146, 29-42.	7.5	69
14	Homogenization of plant diversity, composition, and structure in North American urban yards. Ecosphere, 2018, 9, e02105.	2.2	68
15	Seasonal dynamics of a suburban energy balance in Phoenix, Arizona. International Journal of Climatology, 2014, 34, 3863-3880.	3.5	66
16	Ecohydrologic process networks: 2. Analysis and characterization. Water Resources Research, 2009, 45, .	4.2	65
17	Moving Towards a New Urban Systems Science. Ecosystems, 2017, 20, 38-43.	3.4	63
18	The vulnerability and resilience of a city's water footprint: The case of Flagstaff, Arizona, USA. Water Resources Research, 2016, 52, 2698-2714.	4.2	55

#	Article	IF	Citations
19	Do energy retrofits work? Evidence from commercial and residential buildings in Phoenix. Journal of Environmental Economics and Management, 2018, 92, 726-743.	4.7	53
20	Developing knowledge systems for urban resilience to cloudburst rain events. Environmental Science and Policy, 2019, 99, 150-159.	4.9	48
21	Embedded resource accounting for coupled naturalâ€human systems: An application to water resource impacts of the western U.S. electrical energy trade. Water Resources Research, 2014, 50, 7957-7972.	4.2	47
22	Convective suppression before and during the United States Northern Great Plains flash drought of 2017. Hydrology and Earth System Sciences, 2018, 22, 4155-4163.	4.9	46
23	Reducing a semiarid cityâ€™s peak electrical demand using distributed cold thermal energy storage. Applied Energy, 2014, 134, 35-44.	10.1	45
24	Information Driven Ecohydrologic Self-Organization. Entropy, 2010, 12, 2085-2096.	2.2	44
25	A Multiâ€Scale Analysis of Singleâ€Family Residential Water Use in the Phoenix Metropolitan Area. Journal of the American Water Resources Association, 2014, 50, 448-467.	2.4	43
26	Benchmarking and Process Diagnostics of Land Models. Journal of Hydrometeorology, 2018, 19, 1835-1852.	1.9	41
27	River ecosystem conceptual models and nonâ€perennial rivers: A critical review. Wiley Interdisciplinary Reviews: Water, 2020, 7, e1473.	6.5	37
28	Debatesâ€"Does Information Theory Provide a New Paradigm for Earth Science? Causality, Interaction, and Feedback. Water Resources Research, 2020, 56, e2019WR024940.	4.2	37
29	A spatially detailed blue water footprint of the United States economy. Hydrology and Earth System Sciences, 2018, 22, 3007-3032.	4.9	36
30	Electricity demand planning forecasts should consider climate non-stationarity to maintain reserve margins during heat waves. Applied Energy, 2017, 206, 267-277.	10.1	33
31	Does Information Theory Provide a New Paradigm for Earth Science? Hypothesis Testing. Water Resources Research, 2020, 56, e2019WR024918.	4.2	33
32	Supply chain diversity buffers cities against food shocks. Nature, 2021, 595, 250-254.	27.8	32
33	Moving university hydrology education forward with community-based geoinformatics, data and modeling resources. Hydrology and Earth System Sciences, 2012, 16, 2393-2404.	4.9	30
34	Information Theory for Model Diagnostics: Structural Error is Indicated by Tradeâ€Off Between Functional and Predictive Performance. Water Resources Research, 2019, 55, 6534-6554.	4.2	29
35	Reducing water scarcity by improving water productivity in the United States. Environmental Research Letters, 2020, 15, 094033.	5.2	29
36	Robust observations of land-to-atmosphere feedbacks using the information flows of FLUXNET. Npj Climate and Atmospheric Science, 2019, 2, .	6.8	28

#	Article	IF	Citations
37	Novel metrics for relating personal heat exposure to social risk factors and outdoor ambient temperature. Environment International, 2021, 146, 106271.	10.0	28
38	Grand Challenges for Hydrology Education in the 21st Century. Journal of Hydrologic Engineering - ASCE, 2015, 20, .	1.9	27
39	Relationship between Water Withdrawals and Freshwater Ecosystem Water Scarcity Quantified at Multiple Scales for a Great Lakes Watershed. Journal of Water Resources Planning and Management - ASCE, 2013, 139, 671-681.	2.6	26
40	Developing the greatest Blue Economy: Water productivity, fresh water depletion, and virtual water trade in the Great Lakes basin. Earth's Future, 2016, 4, 282-297.	6.3	26
41	Scaling properties of food flow networks. PLoS ONE, 2018, 13, e0199498.	2.5	26
42	Generalizing ecological, water and carbon footprint methods and their worldview assumptions using Embedded Resource Accounting. Water Resources and Industry, 2013, 1-2, 77-90.	3.9	24
43	Applying Information Theory in the Geosciences to Quantify Process Uncertainty, Feedback, Scale. Eos, 2013, 94, 56-56.	0.1	24
44	Investigating the mechanisms responsible for the lack of surface energy balance closure in a central Amazonian tropical rainforest. Agricultural and Forest Meteorology, 2018, 255, 92-103.	4.8	24
45	US cities can manage national hydrology and biodiversity using local infrastructure policy. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 9581-9586.	7.1	23
46	Water Distribution System Failure Risks with Increasing Temperatures. Environmental Science & Technology, 2018, 52, 9605-9614.	10.0	23
47	Sensor lag correction for mobile urban microclimate measurements. Urban Climate, 2015, 14, 622-635.	5.7	22
48	Full Domestic Supply Chains of Blue Virtual Water Flows Estimated for Major U.S. Cities. Water Resources Research, 2020, 56, e2019WR026190.	4.2	21
49	The Hydro-Economic Interdependency of Cities: Virtual Water Connections of the Phoenix, Arizona Metropolitan Area. Sustainability, 2015, 7, 8522-8547.	3.2	20
50	Identifying CO2 advection on a hill slope using information flow. Agricultural and Forest Meteorology, 2017, 232, 265-278.	4.8	20
51	Enhancing the T-shaped learning profile when teaching hydrology using data, modeling, and visualization activities. Hydrology and Earth System Sciences, 2016, 20, 1289-1299.	4.9	19
52	An ecohydrological approach to conserving urban water through optimized landscape irrigation schedules. Landscape and Urban Planning, 2015, 133, 127-132.	7.5	18
53	Seasonally varied controls of climate and phenophase on terrestrial carbon dynamics: modeling eco-climate system state using Dynamical Process Networks. Landscape Ecology, 2016, 31, 165-180.	4.2	18
54	Multiscale Modeling and Evaluation of Urban Surface Energy Balance in the Phoenix Metropolitan Area. Journal of Applied Meteorology and Climatology, 2015, 54, 322-338.	1.5	17

#	Article	IF	Citations
55	Water Footprint of 65 Midâ€•to Largeâ€Sized U.S. Cities and Their Metropolitan Areas. Journal of the American Water Resources Association, 2017, 53, 1147-1163.	2.4	17
56	Indicators of hydro-ecological alteration for the rivers of the United States. Ecological Indicators, 2021, 120, 106908.	6.3	17
57	The U.S. foodâ€“energyâ€“water system: A blueprint to fill the mesoscale gap for science and decision-making. Ambio, 2019, 48, 251-263.	5.5	16
58	Electric Grid Vulnerabilities to Rising Air Temperatures in Arizona. Procedia Engineering, 2016, 145, 1346-1353.	1.2	15
59	Modelling soil moisture, water partitioning, and plant water stress under irrigated conditions in desert urban areas. Ecohydrology, 2014, 7, 1297-1313.	2.4	14
60	The Development of the INFEWS-ER: A Virtual Resource Center for Transdisciplinary Graduate Student Training at the Nexus of Food, Energy, and Water. Frontiers in Environmental Science, 2019, 7, .	3.3	13
61	Debates: Does Information Theory Provide a New Paradigm for Earth Science? Sharper Predictions Using Occam's Digital Razor. Water Resources Research, 2020, 56, e2019WR026471.	4.2	12
62	Anticipating global terrestrial ecosystem state change using FLUXNET. Global Change Biology, 2019, 25, 2352-2367.	9.5	11
63	Cities of the Southwest are testbeds for urban resilience. Frontiers in Ecology and the Environment, 2019, 17, 79-80.	4.0	10
64	Guidance on the usability-privacy tradeoff for utility customer data aggregation. Utilities Policy, 2020, 67, 101106.	4.0	10
65	Building a Global Ecosystem Research Infrastructure to Address Global Grand Challenges for Macrosystem Ecology. Earth's Future, 2022, 10, .	6.3	10
66	Sustainable long term scientific data publication: Lessons learned from a prototype Observatory Information System for the Illinois River Basin. Environmental Modelling and Software, 2014, 54, 73-87.	4.5	9
67	Citizen-Led Community Innovation for Food Energy Water Nexus Resilience. Frontiers in Environmental Science, 2020, 8, .	3.3	8
68	Reanalysis of Water Withdrawal for Irrigation, Electric Power, and Public Supply Sectors in the Conterminous United States, 1950â€“2016. Water Resources Research, 2021, 57, e2020WR027751.	4.2	8
69	Waterâ€Use Data in the United States: Challenges and Future Directions. Journal of the American Water Resources Association, 2022, 58, 485-495.	2.4	8
70	HESS Opinions: How should a future water census address consumptive use? (And where can we) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	4.9	7
71	A synthetic water distribution network model for urban resilience. Sustainable and Resilient Infrastructure, 2022, 7, 333-347.	2.8	7
72	TraVis - A visualization framework for mobile transect data sets in an urban microclimate context. , 2015, , .		5

#	Article	IF	Citations
73	Synergies Among Environmental Science Research and Monitoring Networks: A Research Agenda. Earth's Future, 2021, 9, e2020EF001631.	6.3	5
74	Developing Climate Resilience in Aridlands Using Rock Detention Structures as Green Infrastructure. Sustainability, 2021, 13, 11268.	3.2	5
75	The FEWSION for Community Resilience (F4R) Process: Building Local Technical and Social Capacity for Critical Supply Chain Resilience. Frontiers in Environmental Science, 2021, 9, .	3.3	4
76	Technical note: â€œBit by bitâ€• a practical and general approach for evaluating model computational complexity vs.Âmodel performance. Hydrology and Earth System Sciences, 2021, 25, 1103-1115.	4.9	4
77	Multilayer Network Clarifies Prevailing Water Consumption Telecouplings in the United States. Water Resources Research, 2021, 57, e2020WR029141.	4.2	4
78	Mapping local food self-sufficiency in the U.S. and the tradeoffs for food system diversity. Applied Geography, 2022, 143, 102687.	3.7	4
79	A Systems Approach to Municipal Water Portfolio Security: A Case Study of the Phoenix Metropolitan Area. Water (Switzerland), 2020, 12, 1663.	2.7	3
80	Strength and Memory of Precipitation's Control Over Streamflow Across the Conterminous United States. Water Resources Research, 2022, 58, .	4.2	3
81	A Method of Aggregating Heterogeneous Subgrid Land-Cover Input Data for Multiscale Urban Parameterization. Journal of Applied Meteorology and Climatology, 2016, 55, 1889-1905.	1.5	2
82	Threshold Based Footprints (for Water). Water (Switzerland), 2018, 10, 1029.	2.7	2
83	The Three Colorado Rivers: Hydrologic, Infrastructural, and Economic Flows of Water in a Shared River Basin. Journal of the American Water Resources Association, 2022, 58, 269-281.	2.4	2
84	Hydrologic Data Models. , 2005, , 61-79.		1
85	How Reservoirs Were Operated â€" Exploring the Role of Hydrologic Information. , 2008, , .		0
86	Value intensity of water used for electrical energy generation in the Western U.S.; An application of embedded resource accounting. , 2012, , .		0
87	Work in progress: Constructing a multidisciplinary design project for first-year engineering and Computing students: Traffic Simulation Engineering Design Challenge. , 2012, , .		0
88	Earth's Imperiled Rivers and Streams. , 2021, , .		0
89	Unified Modeling Language. , 2005, , 9-20.		0
90	Applying Science to Practice. AESS Interdisciplinary Environmental Studies and Sciences Series, 2020, , 459-482.	0.2	0